

$$\begin{array}{rcl}
 -b + 4b & = & 8b - b \\
 \hline
 3b & = & 7b \\
 -3b & - & -3b \\
 \hline
 0 & = & 4b \\
 \hline
 0 & = & b
 \end{array}$$

$$\begin{array}{rcl}
 6p + 1 & = & 3(2p + 1) \\
 6p + 1 & = & 6p + 3 \\
 -1 & & -1 \\
 \hline
 6p & = & 6p + 2 \\
 -6p & - & -6p \\
 \hline
 0 & = & 2 \\
 & & \text{no solution}
 \end{array}$$

p. 142 Skills Check

- $\frac{49 \div 7}{84 \div 7} = \frac{7}{12}$
- $\frac{24 \div 6}{42 \div 6} = \frac{4}{7}$
- $\frac{135 \div 5}{180 \div 5} = \frac{27 \div 9}{36 \div 9} = \frac{3}{4}$
- $\frac{35}{25} \times \frac{40}{14} = 4$
- $\frac{99}{144} \times \frac{96}{88} = \frac{3}{4}$
- $\frac{21}{5} \times \frac{20}{7} = 4$
- $\frac{21}{5} \times \frac{108}{86} = \frac{12}{5}$

Ratio - comparison of 2 numbers

Rate - a ratio that compares numbers with different units

Unit Rate -  $\frac{\text{miles}}{\text{hours}}$  denominator of 1

Ex. 1 (Unit Rate)

\$1.56 for 48 oz of apple juice

$$\frac{\$1.56}{48 \text{ oz}} \div 2 = \frac{.78}{24} \div 2 = \frac{.39}{12} \div 2 = \frac{.13}{4} = .0325$$

\$0.0325/oz

3.25¢/oz

12 oz bottle sells for \$1.29 - find unit rate

$$\frac{\$1.29}{12 \text{ oz}} = \frac{.43}{4}$$

10.75¢/oz

\$0.1075 / oz

Proportions

$\frac{a}{b} = \frac{c}{d}$

means extremes

$a:d = c:b$

a and d are the extremes

b and c are the means

Rule - The product of the means equals the product of the extremes

$$\frac{4}{5} = \frac{x}{10}$$

$$\frac{2}{7} = \frac{18}{x}$$
~~$$\frac{4}{5} = \frac{x}{13}$$~~

$$\frac{7(18)}{2} = \frac{x}{2}$$

$$5x = 4(13)$$

$$63 = x$$

$$\frac{5x}{5} = \frac{52}{5}$$

$$x = 10\frac{2}{5}$$

$$\left(10\frac{2}{5}\right)$$

Steno

homework - p. 137 # 9-23

p. 146 # 16-23